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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/612,067

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Joel Naumann

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EXAMINER

PHAN, TRI H

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/612,067	Applicant(s) NAUMANN, JOEL	
	Examiner Tri H. Phan	Art Unit 2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-10,13-18 and 20-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1,3,5-10,13-18 and 20-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment/Arguments

1. This Office Action is in response to the Response/Amendment filed on October 27th, 2005. Claims 2, 4, 11-12 and 19 are now canceled. Claims 1, 3, 5-10, 13-18 and 20-24 are now pending in the application.

Claim Objections

2. Claims 5, 13, and 18 are objected to because of the following informalities:

Claims 5 and 13 are objected to, as being of improper depend on a cancelled claim.

In claim 18, line 6, the dash “_” between the word “buffer” and “and” should be removed for clarity.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation “said IDSEL line” in line 11. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 5-10, 13-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of **Bontemps et al.** (U.S.5,923,663; hereinafter refer as '**Bontemps**').

- In regard to claim 1, AAPA discloses in the background section of the specification and figures 1-2, *"a communication system having a router, said router having a PCI-compliant front card, said front card being configured to accept a LAN or WAN compliant back card, wherein said front card comprises an FE MAC, and said back card comprises an FE Phy, a method for detecting the absence of a Phy Layer device on the back card and communicating said absence to the front card (wherein figure 2 is showing one solution proposed to locate the 'FE MAC' on the 'front card', instead of on the 'back card' as disclosed in figure 1, to eliminate the need of physical couple and re-gain the area saving as disclosed in the Specification, page 4, lines 10-13), said method comprising: receiving, by ... the front card, a sensing signal from the back card (Specification, page 3, lines 2-14)..."*

However, AAPA fails to explicitly disclose “...a switching input of a tri-state buffer...” and “if said sensing signal is a logical low, then coupling a IDSEL signal corresponding to a particular channel of said back card to said front card; and if said sensing signal is not low, then decoupling said IDSEL signal from said front card and providing a logical low signal in the place of an IDSEL line”. Bontemps however, discloses “...a switching input of a tri-state buffer (figure 2, element 222 and figure 4 where element 222 is the function equivalent of the tri-state buffer by allowing a select signal to be asserted when a device is detected as can be read in col. 11 lines 25-38)...” and “if said sensing signal is a logical low, then coupling a IDSEL signal corresponding to a particular channel of said back card to said front card; and if said sensing signal is not low, then decoupling said IDSEL signal from said front card and providing a logical low signal in the place of an IDSEL line (col. 11, lines 25-38; it is noted that although Bontemps does not disclose the sensing signal to be low when the select signal is coupled, it is a matter of design choice how the sensing signal is interpreted because there are only two states and if one state, such as low, affects the response of coupling, then the other state, in this case high, will result in the decoupling or opposite response; it is also noted that although the ‘toggle state’ of Bontemps is not consistently providing a “logical low” in response to a given state of the sensing line, it is providing the same effect of decoupling the select line).”

It would have been obvious to one with ordinary skill in the art at the time of invention to include the “tri-state buffer” and the “coupling of the IDSEL line” with the front and back cards of AAPA for the purpose of allowing detection of devices to a port. The motivation being quicker establishment of communication links through detected connecting devices as disclosed in Bontemps: col. 1, lines 6-10.

- Regarding claim 3, in addition to features in base claim 1 (see rationales pertaining the rejection of base claim 1 discussed above), however, AAPA lacks what Bontemps further discloses, “*said tri-state buffer further has an input and an output, said input and output being serially disposed on a IDSEL line corresponding to a particular channel*” (figure 2, element 22 and figure 4, where the input and outputs of element 222 are serially disposed on a particular channel corresponding to a particular port).”

It would have been obvious to one with ordinary skill in the art at the time of invention to include the tri-state buffer with input and output in the front card of AAPA for the purpose of allowing detection of connecting devices to a port. The motivation being quicker establishment of communication links through detected connecting devices as disclosed in Bontemps: col. 1, lines 6-10.

- In regard to claims 10 and 18, AAPA discloses in the background section of the specification and figures 1-2, “*a communications system having a router, said router having a PCI-compliant front card, said front card being configured to accept a LAN or WAN compliant back card, wherein said front card comprises an FE MAC, and said back card comprises an FE Phy, an apparatus for detecting the absence of a Phy Layer device on the back card and communicating said absence to the front card* (wherein figure 2 is showing one solution proposed to locate the ‘FE MAC’ on the ‘front card’, instead of on the ‘back card’ as disclosed in figure 1, to eliminate the need of physical couple and re-gain the area saving as disclosed in the Specification, page 4, lines 10-13)”.

However, AAPA fails to explicitly disclose “*means for switching disposed on the front card comprising a tri-state buffer wherein said tri-state buffer has an input, an output, and a switching input wherein said input and said output of said tri-state buffer being serially disposed on said front card and said switching input of said tri-state buffer is configured to be coupled to said back card, said means for switching being configured to receive a sensing signal from the back card, said sensing signal having a first and second state; said means for switching being further configured to provide a predetermined signal to said front card responsive to said state of sensing signal*”. Bontemps however, discloses “*means for switching disposed on the front card comprising a tri-state buffer wherein said tri-state buffer has an input, an output, and a switching input wherein said input and said output of said tri-state buffer being serially disposed on said front card and said switching input of said tri-state buffer is configured to be coupled to said back card* (figure 2, element 22 and figure 4, where the input and outputs of element 222 are serially disposed on a particular channel corresponding to a particular port), *said means for switching being configured to receive a sensing signal from the back card, said sensing signal having a first and second state; said means for switching being further configured to provide a predetermined signal to said front card responsive to said state of sensing signal* (col. 11, lines 25-38; it is noted that although Bontemps does not disclose the sensing signal to be in first state or second state for providing determining signal, it is a matter of design choice how the sensing signal is interpreted because there are only two states and if one state, such as low, affects the response of coupling, then the other state, in this case high, will result in the decoupling or opposite response; it is also noted that although the ‘toggle state’ of Bontemps is not consistently

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providing a 'logical low' in response to a given state of the sensing line, it is providing the same effect of decoupling the select line)"

It would have been obvious to one with ordinary skill in the art at the time of invention to include the "*tri-state buffer*" with the front card of AAPA for the purpose of allowing detection of connecting devices to a port. The motivation being quicker establishment of communication links through detected connecting devices as disclosed in Bontemps: col. 1, lines 6-10.

- Regarding claims 5, 13 and 20, in addition to features in base claims 1, 10 and 18 (see rationales pertaining the rejection of base claims 1, 10 and 18 discussed above), the combination of AAPA and Bontemps further discloses, *wherein said front card and said back card are coupled via an MII bus* (AAPA: figure 2, element 114; Bontemps: figure 2, 'MII or MAC' connection).

- In regard to claims 6, 14 and 21, in addition to features in base claims 1, 10 and 18 (see rationales pertaining the rejection of base claims 1, 10 and 18 discussed above), the combination of AAPA and Bontemps fails to explicitly disclose, *wherein said front card comprises an HDLC control, and said back card comprises a T1/E1 framer/line interface*. Although both AAPA and Bontemps lack "*the HDLC control*" and "*TI/EI framer or line interface*", it would have been obvious to one with ordinary skill in the art to include "*the HDLC control*" and "*TI/EI framer or line interface*" with the method and apparatus of claims 1, 10 and 18 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on

applicant's invention. Therefore, choosing HDLC control versus ATM SAR (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

- Regarding claims 7, 15 and 22, in addition to features in base claims 1, 10 and 18 (see rationales pertaining the rejection of base claims 1, 10 and 18 discussed above), the combination of AAPA and Bontemps fails to explicitly disclose, *wherein said front card and said back card are coupled via a TDM bus*. Although both AAPA and Bontemps lack "*said front card and said back card are coupled via a TDM bus*", it would have been obvious to one with ordinary skill in the art to include the TDM bus with the method and apparatus of claims 1, 10 and 18 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a TDM bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

- In regard to claims 8, 16 and 23, in addition to features in base claims 1, 10 and 18 (see rationales pertaining the rejection of base claims 1, 10 and 18 discussed above), the combination of AAPA and Bontemps fails to explicitly disclose, *said front card comprises an ATM SAR, and said back card comprises an ATM Phy*. Although both AAPA and Bontemps lack "*ATM SAR*" and "*ATM Phy*", it would have been obvious to one with ordinary skill in the art to include "*ATM SAR*" and "*ATM Phy*" with the method and apparatus of claims 1, 10 and 18 as a matter of

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design choice. As can be seen in applicant's specification, page 15, lines 5-13 these devices are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing ATM SAR versus HDLC control (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different devices would be based on the type of network and the requirements needed for communication.

- Regarding claims 9, 17 and 24, in addition to features in base claims 1, 10 and 18 (see rationales pertaining the rejection of base claims 1, 10 and 18 discussed above), the combination of AAPA and Bontemps fails to explicitly disclose, *wherein said front card and said back card are coupled via a Utopia bus*. Although both AAPA and Bontemps lack *"said front card and said back card are coupled via a Utopia bus"*, it would have been obvious to one with ordinary skill in the art to include the *"Utopia bus"* with the method and apparatus of claims 1, 10 and 18 as a matter of design choice. As can be seen in applicant's specification, page 15, lines 5-13 these coupling means are chosen based on the type of network or on requirements for communication and not chosen based on applicant's invention. Therefore, choosing a Utopia bus versus a MII bus (as can be seen in Table 1) is a matter of design choice. The motivation for choosing the different bus would be based on the type of network and the requirements needed for communication.

Response to Amendment/Arguments

7. Applicant's arguments, see REMARKS, page 7, lines 6-12, filed on 12 April 2004, with respect to claims 4, 12 and 19, which are directed to a router having a front card comprising an

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FEMAC, and a back card comprise an FE Phy. The AAPA discloses in figure 2, which provides a router having a front card comprising an FEMAC, and a back card comprise an FE Phy (see AAPA, figure 2; Specification, pages 3-4); and wherein Bontemps discloses about an automatic media detection circuit for use by repeaters, bridges, switches or similar type devices (see Bontemps: figure 2), which comprises physical device 218 and mode control circuit 222 which functions equivalent of the tri-state buffer by allowing a select signal to be asserted when a connecting device is detected as can be read in col. 11, lines 25-38, which provides the same function as element 110 in figure 2 of the AAPA. Therefore, Examiner concludes that the combination of AAPA and Bontemps teaches the arguable feature.

Applicant also argues, see REMARKS, page 7, lines 13-16, there is no motivation to combine Bontemps with AAPA, because such combination doesn't solve the problem described in Applicant's AAPA. Examiner respectfully disagrees. According to current practice, reasons for combining are to come from the references used in the rejection of the claimed invention and in some cases from knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, figure 2 of the AAPA shows one solution proposed by the prior art, by relocating the FE MAC to the front card to eliminate the need to physical coupling connection and re-gaining the saving area for a large connector, but still need certain procedures to ensure a proper connection. Bontemps discloses about an automatic media detection circuit for automatically detecting external device connected to a network port and for establishing of communication links through detected connecting devices as disclosed in Bontemps: col. 1, lines 6-10; e.g. providing the means to ensure a proper connection (Bontemps,

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col. 3, lines 66-col. 4, lines 1-4, provides the support for the offered motivation in the above rejections) or the motivation for combine Bontemps with AAPA.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Smith et al. (U.S.6,408,347), **Bachrach, Yuval** (U.S.6,694,394), **Fry et al.** (U.S.6,636,904) and **Allison et al.** (U.S.6,549,960) are all cited to show interfaces and methods for improving the communication between the interface card over the communication bus, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on (571) 272-3126.

Any response to this action should be mailed to:

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or faxed to:



(571) 273-8300

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Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

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Tri H. Phan
January 27, 2006

BRIAN NGUYEN
PRIMARY EXAMINER